

ABSTRACT OF THE DISCLOSURE

A data representation language representation of the state of a process executing on a client or service in a distributed computing environment may be created. The 5 representation may include a computation state of the device and/or virtual machine on which the process is executing, wherein the computation state of the device and/or virtual machine comprises information about the execution state of the process on the device and/or virtual machine. A process state may include, but is not limited to: threads, all objects referenced by the threads, transient variables created during the execution of the 10 process, objects and their data, etc. In one embodiment, data describing one or more leases representing grants of access to external services, obtained from spaces by the process, may also be stored with the process state. The data representation language representation of the state of a process may be moved from node to node within the distributed computing environment. The representation of the state of a process may also 15 be stored as a data representation language object in a store mechanism, and later retrieved from the store mechanism to resume the process execution on the same node or on a different node in the distributed computing environment. In one embodiment, an object compilation/decompilation process may be used in creating the representation of the state of a process and in regenerating the state of the process by decompiling the 20 representation of the state of the process.

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